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## THE FUTURE OF THE WORLD ECONOMY IS AN INTEGRATED WORLD ECONOMIC STRUCTURE <sup>1</sup>

*Global changes in the modern world cannot be adequately described on the basis of neoliberal thinking and require a new approach. It can be formed on the basis of the cyclical-wave characterization of the development of mankind. The hypothesis about the wave-like development of the world economy with a certain cyclicity lies at the heart of this research. The authors determined the economic basis of the formation, development and change of these waves (technological ways and technical revolutions). These changes reflect in the cyclical fluctuations of the world economy. The mechanism of these fluctuations is described by the theory of "large cycles of the economic conjuncture" by N. Kondratiev. The authors propose a methodology and methodological tools for analyzing and forecasting cyclic-wave processes in the economic development. The study has concluded that it is the regularities of K-cycles that allow one to correctly assess the ongoing processes in the world economy, to forecast possible variants of their development. The authors came to the conclusion that the development of the world economic structure is necessarily accompanied by a cyclical shift in the instruments of capital accumulation (material and financial expansion). These processes are reflected in the periodic replacement of scientific paradigms of economic development and management. The state always takes an active part in the phase of the dominance of productive capital, and the ideological paradigm is of a directing nature. While in the phase of domination of financial capital the liberal paradigm becomes dominant. We have substantiated the thesis about the transition from the American to the Asian systemic cycle of capital accumulation, which would inevitably lead in the middle of the 21st century to the shift of the center of the world economy from the West to the East. The paper concludes that the world is facing a change from the Monopolistic world economic structure to the Integrated world economic structure. The authors formulated the main contradiction of our present day — the confrontation of the dying Industrial Civilization in the face of the cumulative West and the emerging Information Society. The authors analyzed the main tendencies, problems and possible alternatives to the development of the world economy. It can ensure the development and adoption of political decisions for the most painless transition of Russia to the emerging forms and institutions of the global economy.*

**Keywords:** civilizational waves, long cycles of economic conjuncture, systemic cycles of capital accumulation, technological structures, industrial civilization, technological revolution, global economic structures, network organizations, global market, systems of economic development

### Introduction

The article explains the global changes taking place in the modern world, which cannot be adequately described on the basis of outdated models of neoliberal thinking and require a new ap-

proach. The research is based on the hypothesis that the world economy is developing not linearly, but in waves, and the waves have a certain cyclic pattern.

The study is based on the scientific achievements of Russian and foreign economists who are supporters of the concept of wavy cyclical civilizational development of mankind: the the-

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ory of “three waves of civilization development” by A. Toffler [1], the theory of large cycles of economic conjuncture by N. Kondratiev [4], the theory of innovative development by J. Schumpeter [15], the theory of technology and global economic structures Yu. Glazyev [6, 10], the theory of systemic cycles of capital accumulation by G. Arrighi [11, 16], and the theory of World-systems by I. Wallerstein [17].

The research objectives included the identification of regularities of the world economy development on the industrial wave of civilization development, the identification of the causes of development and change of the forms of organization of production, economic institutions, paradigms, and models of economic development.

The identification of objective foundations and elements of the birth of a new (Integral) world economic structure and the prediction of its characteristics has a special place. In this regard, the task was to analyze the main tendencies, problems and alternatives of the world economy development that can ensure the development and adoption of political decisions for the most painless transition of Russia to new emerging forms and institutions of the global economy.

The recently deceased American philosopher and futurologist Alvin Toffler in his book “The Third Wave”, published in 1980, singled out three waves of civilization in the history of human development: agricultural, industrial and information. [1] The first wave (agricultural civilization) began about 10 thousand years ago when hunters and gatherers learned to till the ground and turned to a settled way of life. The main resource of the first wave was the earth, and a large part of the generated product was consumed directly by producers. The main energy resources were water, wind, fire, as well as muscle power of humans and animals.

Economic development in the civilization of the first wave was going around the circle, the cycles of agricultural production. The leaders of the agricultural civilization in the period of its decay in the eighteenth century were the Eastern countries (China, India, Japan, etc.). They could get 2–3 crops per year due to the favorable climatic conditions, land reclamation and labour intensification. So, 200 years ago the countries of the East, according to Angus Maddison, created more than half of world gross product (WGP), and the West (Europe and America) created about a quarter of the WGP [2]. Capital accumulation occurred mostly in the area of trade. The goods mostly came from the East to the West, and, vice versa, gold and silver came from the West to the East [3].

### **Mechanisms of Industrial Civilization Development**

From the middle of the XVIII century, the “second (industrial) wave” began to gain strength, which in 100 years conquered virtually the entire world. As a result of the Industrial Revolution and the aggressive colonial policies of Western countries, the peoples of non-Western civilizations — leaders of the agricultural wave — fell into colonial and semi-colonial dependence. They lost their potential for economic development, as favorable climatic conditions, outdated technology and organizational principles of agricultural production, the institutions of the “first wave” prevented the rapid development of an industrial civilization. The countries of the East that became hostages of their natural and climatic advantages of the “first wave” lost their leadership in the world development to the West.

The basis of any civilization is energy. The agricultural civilization used renewable muscle energy of people, animals and natural resources (wind and water). The industrial wave began to rely on non-renewable natural resources: coal, oil, gas. Technological breakthrough of industrial civilization was that it created machines that, in contrast to the mechanisms of the “first wave”, not only intensified muscle or natural power, but worked independently, especially after the invention of the steam engine. But the main thing was the creation of machines for the production of machines, and mass large-scale conveyor production was the hallmark of industrial civilization.

The industrial wave developed no longer in cycles of agricultural production, but in economic cycles, the main of which were large cycles of economic conjuncture (K-cycles), revealed by Nikolai Kondratiev, and systemic cycles of capital accumulation (SCCA), revealed by Giovanni Arrighi. N. Kondratiev’s research showed that K-cycles consist of two waves: a downward and an upward one. The downward wave of K-cycles is characterized by “a particular duration of depressions, shortness and weakness of upswings,” and the upward wave is characterized by long-term stable growth and short-term, shallow recessions [4]. Therefore, N. Kondratiev’s follower G. Modelski proposed to call the K-cycle downward waves as “take-off phase”, and the upward waves as “rapid growth phases” [5].

In the take-off phase (a downward wave), a cluster of new basic technologies is formed as a prerequisite for future growth. During the growth phase, complementary and improving technologies are formed, as well as the diffusion of new basic technologies into the majority of production

branches. Due to this, economic growth on an upward wave takes place. The process of formation of basic technologies and their subsequent diffusion throughout the economy Sergei Glazyev called the formation and development of technological structure (TS). TS is a combination of technologies that ensure the creation of a new level of production capacities and the development of the society productive forces [6]. At the end of the K-cycle upward wave, there is an exhaustion of the technological prerequisites of growth, and the economy falls into a "technological stalemate" [7]. It is characterized by stagnation on a new downward wave, in which the basic technologies of the new TS begin to form for the take-off phase of the next K-cycle. Then everything repeated itself again and again.

"Technological stalemate" is similar to a "dead center" in the work of a piston in the cylinder of the steam engine or an internal combustion engine at the moment of its reciprocating motion. To prevent stopping of the piston at the "dead center", jamming the engine and continuing movement in the right direction, it is necessary to exert an external influence, which, as a rule, is carried out by the state in the economy. "Dead center" is also found in biomedicine; this is the state of the body when performing intense physical activities. It occurs a few minutes after beginning intense muscular work. There is an unpleasant sensation, accompanied by shortness of breath, a feeling of tightness in the chest, dizziness, a sensation of pulsation of blood vessels in the head, a desire to stop work<sup>1</sup>. These sensations are a biological analogy of the "technological stalemate" and entry into a downward wave. Therefore, the state of the "technological stalemate" is a natural state which is inherent to the development process of the society productive forces, like the same phenomena in mechanical and biological systems.

Qualitative technological changes lead to significant changes in the use of other components of the productive forces of society: labour and nature. The transition to the industrial civilization was caused by the deepening of the labor division and the machine tools, and machines themselves appeared due to the functional labour division in the manufacturing industry. Repetitive, monotonous and functionally divided and specialized labour displaced diverse agricultural labour, which was not tied to climate change, and diverse craft work. The main production resources instead

of land, wood, water and wind, became coal, ore, oil, etc., located in the earth bowels. By the way, Britain was forced to switch to the use of coal due to the loss of colonies in North America (providing it with timber) as a result of the defeat from the American colonists.

The development of the industrial wave was determined not only by technological characteristics, but also by the processes of changing production relations. In each K cycle (beginning from the 18th century), a change in the basic model of economic development on a new ideological paradigm took place on the downward wave. But this change took place only in the context of two major economic ideologies (liberalism and dirigisme), characterizing the role of the state in the economic life of society. At the dawn of the Industrial wave, mercantilists demanded active government intervention in economic activities, mainly in the form of protectionism. But in the period of the first K-cycle, the physiocrats, under the slogan "laissez-faire, laissez-passer" (grant freedom to act), demanded the state to withdraw from the economy. A. Smith, who studied physiocrats' doctrine, derived the formula of the "invisible hand of the market". And to the present, every K-cycle displaces the model of economic development in the confrontation of liberalism and dirigisme.

Kondratiev's cycles characterize the development of the industrial wave in terms of technical and economic changes. Systemic cycles of capital accumulation (SCCA), revealed by G. Arrighi on the basis of F. Braudel's research, show how the industrial wave evolved in space and in time. Within SCCA, there is the formation of a certain world-system with a nucleus headed by a hegemonic country and a periphery, due to which the accumulation of capital in the nucleus takes place. The formation of a new SCCA always happens "under the umbrella" (F. Braudel's term) of the previous SCCA, and its formation and development are carried out within the framework of two K-cycles.

In the first K-cycle of SCCA, the process of capital accumulation takes place mainly in the production sphere according to K. Marx's formula  $M-P-M'$ , which G. Arrighi called the phase of material expansion. The accumulation of capital is carried out by expanding and deepening the division of labour and the development of production of material values. This cycle, as a rule, ends with a crisis of over-accumulation of capital, leading to inefficiency of the further process of capital accumulation in production because of falling the profit rate due to the growth of the organic structure of capital. Capital begins to search for other spheres of application, and in the second K-cycle,

<sup>1</sup> Dead center. Wikipedia. Retrieved from: [https://en.wikipedia.org/wiki/Dead\\_centre\\_\(engineering\)](https://en.wikipedia.org/wiki/Dead_centre_(engineering)) (date of access: 30.04.2017).

the process of its accumulation proceeds from real production to the financial sphere, according to K. Marx's formula  $M-M'$ . Fictitious capital builds "financial pyramids" and inflates "financial bubbles". G. Arrighi called the second stage of SCCA as a phase of financial expansion, which ends with a crisis of overproduction due to compression of consumer demand and the collapse of financial markets as a result of the collapse of financial pyramids. It is precisely this phase of historical development associated with the crisis of overproduction that the world economy is currently experiencing.

But it is wrong to assume that financial capital performs an exceptionally parasitic function of producing money from the air. The main task of financial capital is the concentration and accumulation of capital for a new leap in expanding opportunities for physical capital, and redirecting capital to the industries, which are formed by a new TS. Discoveries and inventions of new products and methods of production occur constantly, but these inventions do not always become innovations. Inventions — feasible ideas can be economically irrelevant, if not used in economic activities. Inventions become innovations only when financial capital sees them as a source of future revenue.

The inventors and developers of innovations can have brilliant ideas and the desire to take risks to implement their own projects, but if financial capital does meet them halfway, their projects will not be realized. Some inventions are waiting for their commercial application about 10 to 110 years [8]. The same thing happens with the development of new territories; L. Badalyan and V. Krivorotov this process call the "development of inconvenient territories"<sup>1</sup> [9, p. 37]). Without the Marshall plan, the restoration of post-war devastation in Europe and Japan would be delayed for many decades, and without transferring the dirty, labour-intensive industries in China, "Chinese miracle" would be impossible.

For physical capital, knowledge about a product, processes and markets is a basis for potential success. Financial capital is independent by its very nature, and its power is based on the power of money. It can be successfully invested in any firm, any project without any idea what invested money will be used for. In the course of such actions, financial capital can acquire deposits, stocks, bonds,

oil futures, derivatives, gold and diamonds, since the main thing for it is the expectation of growth. Financial capital itself is divided into investment, contributing to the development of physical capital, and speculative, inflating financial bubbles and building financial pyramids.

When financial bubbles burst, and financial pyramids break down, the financial markets collapse, the process of centralizing financial capital, which strives for new technologies and emerging industries, as well as in new territories, starts. There is a "development of inconvenient territories", leading to the explosive growth of the world economy. "Technological stalemate" or the collapse of financial markets is historical violence over the capital, but at the same time, it is an economic compulsion of financial capital to further development. And it is not accidental that in the Chinese language the phenomenon of the crisis is indicated by two hieroglyphs, one of which means "problem", and the second one is "new opportunities." It is precisely this economic violence that forces capital to develop a new TS that provides for the transition to a new K-cycle and the formation of a new world economic structure (WEC) in a new territory, which means a transition to a new SCCA.

Thus, the role which technological structures play for K-cycles, for the SCCA is performed by the world economic structures, also discovered by Glazyev [10]. World economic structures ensure the transition of the economic basis of social development to a new, higher level. The formation of WES within the framework of two K-cycles creates an economic basis for the development and change of the SCCA, and successive pairs of TS form a technological revolution. The 1TS, in which textile machines appeared in order to complete the Industrial revolution, demanded the formation of the 2TS: a steam engine and the transition from natural energy resources (water and wind) to coal, since the necessary labour force was concentrated in cities, and the production based on water and wind was being created in rural areas. In addition, the steam engine was more efficient than wind and water. The industrial revolution was formed by the 3TS, which ensured the production of steel, electricity and chemical production, and the 4TS, which gave the internal combustion engine, conveyor production and the transition to oil as the main energy resource.

During the first two K-cycles, when the Industrial Revolution took place, the world economy shifted from the Dutch (commercial capitalism) to the British (industrial capitalism) SCCA. Great Britain became a world industrial center,

<sup>1</sup> Badalyan L. G. and Krivorotov V. F., in the framework of their research of the development of mankind as the formation, development and change of technocenoses, called "inconvenient territories" those that, within the existing technological structure, are not suitable or of little use for life and food production.



which had created more than half of the world's industrial production by the middle of the XIX century. The Industrial Revolution, which had ended in Britain earlier than other countries by the middle of the 19th century, provided the material basis for the transition of the world economy center from East to West. And the aggressive colonial policy allowed it to turn the former leaders of the first wave (China and India) into their colonies and to form the British colonial empire "over which the sun never set." As a result, thanks to the Industrial Revolution, in the world economy, by the middle of the nineteenth century, the Colonial WES was finally formed, the leader of which was Great Britain.

The 3-d and 4-th TSs, which marked the victory of the Industrial Revolution, ensured the transition of the capital accumulation center from Great Britain to the USA. As a result, by the end of the Second World War, a Monopolistic WES, or the American-style world — Pax Americana — was formed. The emergence of the Monopolistic WES was still "under the umbrella" of the British SCCA, when the rapid development of railways led to the creation and development of joint-stock companies and the emergence of monopolies. The Great Depression, which resulted from the rapid and uncontrolled development of monopolies, led to the formation of state-monopoly capitalism. The state, on the one hand, took control of and regulated the activities of monopolies, and on the other hand, promoted their strengthening and foreign economic expansion.

In the transition period from the British to the American SCCA in the 1930s, in the world economy, the three main competing systems of economic development were formed:

1. The militaristic totalitarian pseudo-market model, developed in fascist Germany, Imperial Japan, Italy and Spain.
2. The Keynesian market model of SMC, developed in the US, and after the Second World War and in other developed countries, created globally "welfare states."
3. The totalitarian non-market model of directive planning, developed in the USSR and other countries of the socialist camp.

The militaristic model was the first to overcome the Great Depression, but it inherently led to the war, in which it was defeated. The model of directive planning got a powerful development precisely when other countries were in deep crisis. It contributed to the victory of the USSR in the Second World War, the creation of a nuclear project and the breakthrough of mankind into Space. Its peak occurred in the 1950s and 60s, but it could

not overcome the 5-th TS, and also became a part of history. The Keynesian market model showed its high efficiency in the 1940s and 1960s, creating a "welfare state" in developed countries. K-cycle downward wave crises in the 1970–80s forced the market economy to develop the 5-th TS and to go to a new neoliberal model of economic development.

The foreign economic expansion of monopolies gave rise to the creation of transnational corporations (TNCs) and transnational banks (TNBs). Especially this process intensified on the K-cycle downward wave in the 1970s–1980s, within which the 5TS was formed. TNCs and TNBs went beyond state regulation and proclaimed their goal to form a global economy beyond the control of national jurisdictions. By the early 1980s, TNCs and TNBs strengthened so much that they were able to formulate a neoliberal ideological paradigm of economic development and even bring their proteges — M. Thatcher and R. Reagan — to the power in the UK and the US. In France, they demanded the government's move from Paris to Lyon to make Paris the capital of TNCs and TNBs. In 1989, TNCs and TNB formulated the Manifesto of Global Peace in their own interests in the form of the "Washington Consensus", which the West, through its main institutions (IMF, WB, WTO, etc.), began to impose on all other states.

### **Formation of the Integral World Economy Structure**

At present, the world passes from the 5-th TS (which began in 1970–1980 on the basis of microprocessor technology, personal computers, the Internet, mobile communications, etc.) to the 6-th TS, which will complete the victory of the Information and Communication Revolution. It is on the basis of the Information and Communication Revolution that the Integral WES is already being formed as the basis of the Asian SCCA [11]. As a result, the center of the world economy moves from the West to the East, where currently more than 60 % of the world's population lives. The pendulum of the historical development of the world economy has again swung to the East.

In the current transition period, three new basic systems of economic development have formed:

1. The neoliberal model of American "necons", which inevitably leads to fooling the masses, "chipping" and degeneration of the whole society.
2. The integral model of the flexible and pragmatic combination of the plan and the market, with strict state control and market regulation.

3. The Islamic model of a traditional society with the determining influence of the religious factor embodied in a theocratic state.

The neo-liberal model, focused on the interests of TNCs and TNBs to the detriment of peoples' interests, has been increasingly criticized lately, even in the main Pax Americana countries. D. Trump's victory in the presidential elections in the US indicates that the neoliberal model will soon become a part of history. At the same time, the integrated model, which Asian countries, such as China, Japan, India, South Korea, etc. use, shows its high efficiency. The Islamic model, which is focused on the formation of a theocratic state, is increasing its influence in Asia. Although, it sometimes takes on such negative features as the creation of ISIL.

The current transition from the 5-th TS to the 6-th TS, based on information technologies, nano- and biotechnologies, robotics, 3-D printers, new technologies in energy, etc., will lead to qualitative shifts in the productive forces of the world community. New 6TS technologies will give a powerful impetus to the development of the world economy for the next 20–30 years. The formation of new industries and the diffusion of 6TS innovations into old industries will start, which will ensure a transition to the upward "wave of growth" of the K-cycle as early as the 2020s. This qualitative technological leap will create the material base of the Integral WES, which will ensure the rapid development of the world economy at least until the middle of the 21st century. The G-20 summit, in its main documents, in Chinese Hangzhou urged to accelerate this process of innovative development.

Significant changes will occur in the production relations, since the Center for Capital Accumulation is shifting from West to East before our eyes. In Asia, the Integral WES is already being formed, and it is based on integrating the advantages of a market economy with the planning and regulatory principles of economic management, which are typical of in such Asian countries as China, India, Japan, South Korea, Iran, etc. P. Sorokin wrote about it in the 1960s: "The dominant type of an emerging society and culture will be probably neither capitalist nor communist, but a sui generis type, which we will designate as an integral type. This type will be intermediate between capitalist and communist orders and ways of life. It should include most of the positive values and be free of serious defects of each type. Moreover, the emerging integral system in its full development will probably not be a simple eclectic mixture of specific characteristics of both types,

but a unified system of integral cultural values, social institutions and an integral type of a personality that are substantially different from the capitalist and communist models" [12].

Another important factor determining the formation of the Integral WES was the rapid development of integration processes in the world economy. They will replace globalization, carried out exclusively for the benefit of transnational corporations and banks (70 % of TNCs and TNBs) within the final phase of the financialization of the Monopolistic WES. In an attempt to keep from the final collapse of Monopolistic WES and the hegemony of TNCs and TNBs in the world economy, the US is trying to create the Trans-Pacific Partnership (TTP) and the Transatlantic Trade and Investment Partnership (TTIP), but these are the last cramps of the past of the American SCCA. And it is not a coincidence, the first thing that D. Trump did when he came to the White House, was that he canceled the TTP signed by B. Obama.

Until recently, it was not clear where a new center of the Asian SCCA would be created geographically and how. Many researchers believed that the center of world economic development at the turn of the 2000s moved from the Atlantic region to the Pacific. However, in our opinion, this process was still taking place within the framework of the former American SCCA in the past under the dominance of sea powers and maritime merchant shipping controlled by the United States. Uncertainty in this matter was removed by the Chairman of the People's Republic of China, Xi Jinping, who announced, in 2013, in Kazakhstan about the creation of an Economic belt of the Silk Road (EBSR). This was followed by the proposal of the President of the Russian Federation V.V. Putin on the conjugation of the project EBSR with the Eurasian Economic Union (EAEU), and the Center for Capital Accumulation of the sixth C-cycle began to acquire its characteristics. When at the SPIEF in 2016 Putin initiated the creation of a continental Eurasian partnership based on conjugation of EBSR and EEMP with the participation of India, Iran and other Asian countries, the Center for the Accumulation of Capital of the 21st Century finally got its outlines — continental Asia and Eurasia.

The Chinese government announced in March 2015 eight "economic corridors" connecting China with neighboring regions: South-East, South and Central Asia, as well as with Europe, the Middle East and North Africa. The Chinese Foreign Ministry stated that the orbit of this initiative had already involved 70 countries and their number was growing. 25 funds and banks, specially target-

ing the Silk Road, had already concentrated more than \$1 trillion for future investments to implement material expansion and to form the Integral WES. The Chinese authorities promised, in the near future, to invest \$4 trillion to the countries that would join the project, and stated that any state of the region could do it.

At the Eastern Economic Forum in Vladivostok, Japan and South Korea made proposals for active participation in the development of the Russian economy and in the integration processes with the EAEU. Russia, Iran and Azerbaijan took the initiative to create a transport corridor "North-South." It would connect the newly built port infrastructure of St. Petersburg and the Leningrad region with Indian Mumbai. With Turkey, Russia is renewing the Turkish Stream project. In addition, Russia is planning to create a network of oil and gas transport routes with Central Asian countries, as well as large logistics projects to develop the vast and poorly developed spaces of Siberia and the Far East. Thus, the regional EBSR project, associated with the development project of the EAEU, like the "Marshall Plan," which completed the formation of the American SCCA, is becoming a global project to establish the Asian SCCA.

The implementation of the Chinese-Russian project includes not only the construction of separate roads, but also the interconnection of international telecommunications, standardization, the change in trade and customs regulations, the creation of large logistics centers (hubs), etc. This project is considered to be a foundation of the future economic boom in the entire vast space of the region of Asia and Eurasia. It is namely here that in the process of the formation of the Asian SCCA, a new Integral WES will be formed. The planned transport arteries will facilitate transit transportations from China, India and other countries through Iran, the countries of Central Asia and the Middle East to Europe and will allow increasing trade turnover, stimulating financial and investment cooperation of the countries of the region. This will provide a powerful impetus for the economic development of the whole region of Asia and Eurasia.

The formation of the Integral WES with an accumulation center in Asia is intended to ensure the welfare of the bulk of our planet population through fair and mutually beneficial economic cooperation and equal partnership. This coincides with the eastern mentality, which is not striving for hegemony and leadership, like Anglo-Saxons, but for the harmony of interests. Within the framework of the British SCCA, the Colonial WES provided the well-being of the elite of several

metropolitan countries through direct robbery of the colonies. Pax Americana within the framework of the Monopolistic WES provided prosperity of the "golden billion" due to financial robbery and nonequivalent trade with the countries of the world periphery, whose population was five times higher than the population of developed countries.

The share of Western countries in world exports is currently less than a third, while their share in world imports is about two-thirds. The countries of non-Western civilizations have the opposite: exports exceed two-thirds of world exports, while imports are slightly more than a third. The above data indicate that the trade of the "golden billion" with the developing countries is not equivalent. At the same time, the total external debt of the BRICS countries (leaders of developing countries) is only 2.5 trillion. Or 3.75 % of the external debt of all countries of the world, and the external debt of the G-7 countries (the nucleus of the developed countries) is 18 times higher (45 trillion dollars) and is 63.9 % of the total debt of all countries in the world. This clearly shows the financial robbery of the developing countries [12].

On the downward wave of the new K-cycle, which started with the crisis of 2008, in the "take-off phase", the basic technologies of the 6TS and a new paradigm of economic development are already being formed, the painful search for which is taking place nowadays. Neo-liberalism is already visibly dying, and the new economic doctrine has not found its clear outlines yet. In the 2020s, the "take-off phase" will pass into the "growth phase," and the rapid development of the world economy in the new Center for World Capital Accumulation is in Asia and Eurasia. By the middle of the current century, the process of capital accumulation is no longer necessary for the further development of Mankind, and in accordance with J. Schumpeter, I. Wallerstein and V. Pantin's forecasts, the new Information civilization, about which A. Toffler wrote in his futurological forecast, would have to be finally formed on the basis of the Integral WES.

The transition to the Integral WES is accompanied by the completion of the American SCCA and the transition to the Asian SCCA. The center of capital accumulation and, as a consequence, the center of the world economy again passes from the West to the East. A. Toffler considers the 50-ies of the twentieth century an "inflection point" from the industrial wave to the information wave. It was then that in the United States the number of brainworkers and service sector workers exceeded the number of industrial workers for the first time. But it seems that it was ahead of the events, since

the processes taking place in one country, though leading in the world economy, could not be regarded as a point of civilizational inflection. In our opinion, the world economy began to enter the bifurcation point during the downward wave of the K-cycle of the 1970–1980s, when the basic technologies of the 5TS were formed. The final transition to the Information Civilization will take place after the end of the Information and Communications Revolution and the formation of the Integrated WES by the middle of this century.

### **Main Features of the Integrated WES**

Each civilizational wave has its own special worldview, its own morality, its way of life. Moreover, the world outlook, principles and institutions of a new wave do not rise evolutionarily from the elements of the earlier wave, but are formed on the basis of the unique genome of a new civilization. Therefore, the nucleus of different civilizations are different regions of our planet, in this case, the East and the West. The Integrated WES is transitional, designed to form a third wave or Information civilization; it is a complex nature. In it, in a bizarre form, different worldviews, moral principles, ideological principles and life styles collide in the conflict, which we observe now.

Capitalism, even within the framework of the Agricultural wave, was formed on the basis of the Protestant ethics, and therefore it was not by chance that Anglo-Saxon Protestants formed the Industrial wave. They worked hard, honestly and skillfully, saving every penny or dollar to invest in the development of their business, and invented new production technologies that allowed them to earn more. Therefore, the world factory was first in the UK (British SCCA), and then the center of the world industry moved to the US (American SCCA). But economic liberalism, which appeared in France in the eighteenth century, gradually replaced the values of life: now it is not necessary to work much, honestly and skillfully “in the sweat of one’s face.” Capitalism created “the consumer society”; now rest and entertainments and all sorts of relaxation (often in a cynical and perverted form) are in fashion, any machinations with money, the quality and quantity of goods are allowed, without regard to conscience and honor.

At the beginning of the XXI century, liberalism was not needed, since it had done what the “proletarians of all countries” could not — to bury capitalism. Liberalism became the gravedigger of capitalism, as it destroyed its foundation — the Protestant ethic. And on the ruins of Western capitalism, within the framework of the Asian SCCA, the Integral WES began to form on the basis of the

ethics of the civilizations of the East. The industry of the new Information wave shifted from the West to the East, since the Americans, who were infected with liberalism, stopped working hard, honestly and skillfully. But the Chinese, Japanese, Koreans and other representatives of the civilizations of the East love and are able to work hard, honestly and skillfully, and at the same time, they are very modest in their needs. Moreover, if both the Protestant ethics and liberalism are based on extreme individualism and tough competition, the Eastern civilizations are based on collectivism and the pursuit of a harmony of interests that are incomparably more in line with the demands of a new wave.

The Integral WES is formed in conditions when the world is shaken under the pressure of two waves at once: the outgoing Industrial wave and the emerging Information wave, none of which has become dominant yet. The vision of the future slips away, it becomes fragmentary. In this stormy sea of the most unexpected clashes, the main conflict of our time is formed — between the advancing “third wave,” the bearer of which is the East, and the leaving “second wave,” the bearer of which is the West. Internal conflicts of each wave are added to confrontations and conflicts between its supporters and opponents. The Integrated WES aims at preserving all the best and viable from the previous civilization, transforming it in accordance with the requirements of the emerging new wave.

A. Toffler argued that if the production of the “second wave” is firmly associated with large quantities of millions of absolutely identical, standardized goods, then the production of the “third wave” is a small consignment of goods which is based on a small-scale and individual production focused on the needs of a particular person. Products, produced by the standards or to order in a single copy or a very limited series, symbolize a return to the production principles of the pre-industrial era, but on a completely different technological basis — on the basis of high technologies. The production of a continuous cycle with full automated customization of each product gradually takes place of the serial conveyor production. This becomes possible due to 3-D printers and other technologies which are based on infinite possibilities of programming. The number of components to which each specific product can be disassembled is reduced, and the role of the consumer in the production process is growing.

The development of computers and communication means creates the prerequisites to move the workplace from the office and the enterprise to the worker’s living space. Social factors will also



contribute to the transfer of work to the house. Energy consumption will decrease, and the need for decentralization of its sources will increase. This will lead to increased demand for small alternative energy: solar panels, wind power, geothermal energy, hydropower, etc. It will help to reduce the burden on the environment. "New" economy branches (information, education, healthcare, science, services) will win, "old" — industrial — ones will lose. Workers at home will increasingly become individual entrepreneurs who own their means of production.

Service and consulting on the Internet will dramatically increase its importance. Now, medicine has declared the possibility of transferring the doctor's contact center with patients from the doctor's office to the Internet. No wonder that the saying "It is easier to prevent illness than to treat it" has become widespread. Hospitals, which are located in the centers, have to deal with only emergency work, but all preventive work will go to personal contacts on the Internet. The same can be attributed to the learning processes that are already developing on a distance basis. The possibilities of consulting household and other problems of individual daily demand are even wider. Internet forums, connecting car fans, fans of individual building on their own, home appliances and other things, prove it successfully. A person can survive in micro-collectives and even atomically, due to the widest sphere of computer communications, work and serve themselves and their family.

In future, the mass market will inevitably collapse into a mass of mini-markets, for each of which it is necessary to seek its solution. All these mini-markets will exist in a single Internet environment; the Chinese company Alibaba Group can be considered its prototype. In this regard, it is necessary to strengthen the logistics approach to the organization and management of production and enterprise, which originated and spread in developed countries in the second half of the 20th century. In the industrial era, a vertically integrated corporation was exclusively viewed as a subject of economic life. Therefore, the economic aspects of its activities were attacked. The "third wave" brings with itself the requirement of the emergence of a completely new institution — a corporation that not only earns a profit and produces goods, but also contributes to the solution of the most complex environmental, political, racial, moral, gender and social problems. This is a modern society's demand.

The "third wave" destroys the fundamental pillar of the industrial organization — a principle of

one-man management. Instead, the matrix principle of management will be established, in which the employee has an administrative and functional chief. The "third wave" will force to experiment with a new type of organization. It can consist of small units, interconnected in various ways in each specific case. As a result, numerous configurations can be obtained. Matrix or network organizational structures fit for this type of organization. In addition to matrix structures, the modern organization of enterprises provides fundamentally new organizational structures that are, in principle, suitable for a new information and communication economic system within the framework of the Integral WES. Adaptive organizational structures are those that can be modified in accordance with changes in the environment and the needs of the organization itself.

The development of adaptive structures is of particular interest to firms whose products have a relatively short "life cycle" and often changes in connection with the scientific and technological development of the industry, as well as to firms whose scope requires extensive scientific research and technical elaboration. Escalating competition and market dynamism require growing innovative efforts from firms, but the inertia of the existing organizational and administrative forms often does not allow adapting rapidly to the ongoing changes, which is fraught with a crisis that threatens the very existence of the firm.

Continuing to experiment in the sphere of development of their structures, modern companies are trying to neutralize the negative aspects of the hierarchical-bureaucratic organization through network organizational forms of business. Developed since the early 1960s, the idea of direct communication channels between relatively equal partners led to the construction of network organizations. In conditions of the instability of external business environment, innovation and flexibility of information exchanges are crucial for success. Quick obsolescence of information requires a company to use it immediately, but managers are often unable to dedicate sufficient time for detailed acquaintance with it and personal management. Therefore, they must increasingly delegate their powers. The staff, in turn, do not have time to wait for instructions from above or slow decision-making.

Such a combination of "grassroots" decision-making, open information exchanges and blurred formal lines of subordination is called a network structure. An ideal network organization means the structure of a freely connected network of fundamentally equal and independent part-

ners. This logic of inter-organizational cooperation, successfully used in the framework of strategic alliances and virtual corporations, begins to be transferred to the internal life of the company as well. The company should create conditions that allow the system to control itself with the help of various feedback mechanisms.

Modern information and communication technologies are only an important condition for the effectiveness of network organizational forms, but the main thing is the social and socio-psychological aspects. Network organizations cannot exist without the staff willingness to volunteer cooperation, appropriate incentives, trust and knowledge. It is the knowledge that creates the context that is necessary for the transition to new innovative organizational and management structures.

The market often implies a purely capitalist phenomenon, which is based on commodity-money relations. In fact, the market is a network for the exchange of goods and services. The need for such a universal network arose together with the separation of the roles of the consumer and the producer, generated by the industrial civilization. Reverse convergence of these roles entails a significant transformation of the market model. The market made everyone and everything interdependent. It spread the conviction that economic interests played a key role in human life. It taught us to look at life as a succession of contracts and transactions. Thus, the market expansion formed the values of the industrial civilization. The global market was built, it had nowhere to expand. The distribution system also reached the limit of its development. The creation of the global market was the greatest achievement of the Industrial Civilization.

While the "second wave" civilization emphasized the need to study different things separately, the "third wave" civilization draws attention to their interrelations, context and integrity. This does not correspond to the mentality of the Western man, but completely corresponds to the mentality of the Eastern man who perceives the world in its unity and diversity. The mechanistic approach of the "second wave" argued that any co-existence can in principle be predicted. System thinking of the "third wave," based on the analysis of an infinite number of combinations of loops of positive and negative feedback, draws a line between the phenomena that can be predicted and which cannot be predicted. Nobel Prize Winner I. Prigozhin proposed an amazing synthesis of chaos and order with randomness and necessity, explaining how they influence the cause-effect relationships [14].

Industrial civilization leaves the world in a state of deep divisions between the rich and the poor. The solution to this problem from the point of the "the second wave" was to help poor countries to catch up with the rich ones, having built an industrialized economy. The analysis of the peculiarities of the "third wave" civilization constantly suggests its similarity with the "first wave" civilization, but at a fundamentally different technological level. In our opinion, it is quite legitimate to ask the question: Can the countries of the "first wave" adopt certain characteristics of the "third wave" without a painful breaking of their culture and lifestyle that industrialization demanded? Integration of the most advanced technologies of the "third wave" into the way of life of a patriarchal agrarian society can lead to the emergence of a completely new type of society. The "third wave" is not only a technological revolution; it brings revolutionary changes in all spheres of life, in all dimensions of civilization.

A new civilization will have a much more diversified energy base, which will be dominated by environmentally friendly renewable sources. The technological base of the "third wave" will also be widely diversified: from biology, genetics, electronics, materials science to the exploration of outer space and the depths of the ocean. In connection with the unprecedented growth in the importance of information, humanity restructures education, rebuilds scientific research and, most importantly, reorganizes the communications system. The organization of society will resemble a network rather than a hierarchy of institutions, as it was before. Developing countries will abandon attempts to copy the example of industrialized countries and develop their own radically new development strategies based on their cultural and religious traditions, which is happening within the BRICS. Instead of ranking people according to what they own, as the Industrial wave ethics dictates, the ethics of the new wave will appreciate people for what they can do.

To create a social system of the "third wave", it is necessary to abandon the frightening, though incorrect assumption that the growth of diversity in society automatically leads to increased tension and conflicts. It is necessary to delegate decisions correctly to the level where they can be adopted in an optimal way. The change in information flows enables to solve many problems on the lower level. At the same time, new supranational institutions are needed to solve problems, which go beyond the competence of national authorities, more effectively. We are moving towards a world that will be more like the human brain with a huge num-

ber of neurons and complex connections between them, rather than departments of a bureaucratic machine. The main contradiction of today is the confrontation between the defenders of the obsolete Industrial civilization in the face of the cumulative West and the supporters of the Information Society that is coming to replace it, the embodiment of which is the countries of the East.

### Conclusions

Our research allows presenting the history of the development of Humanity in the civilizational waves that replace each other successively. We determined the economic basis for their formation, development and change in the form of formation, development and change of technological structures, technological revolutions. It leads to a change in the paradigms of managing the socialized economy, to the formation and replacement of systemic capital accumulation centers, the formation and development of world economic structures and the relocation of economic power centers in different regions of the world.

The research has shown that all these changes are reflected in the cyclical fluctuations of the world economy, which are logically described by Kondratiev's theory of "long cycles of the economic conjuncture." Regularities of K-cycles make

it possible to assess correctly the underlying processes in the global economy, to anticipate (forecast) possible options for their development.

Knowledge of the laws and details of the mechanism of world economic development allows us to understand and explain the hidden causes of external manifestations in the world. The accident is an extremely rare phenomenon, referring only to the forms of manifestation or temporary deviations from the main directions of development, which are caused by natural tendencies.

We proposed and substantiated the thesis that the transition from the American to the Asian systemic cycle of capital accumulation is currently taking place, which, in the middle of the 21st century, will inevitably lead to the moving of the world economy center from the West to the East.

We came to a conclusion that the world is on the verge of changing the Monopolistic world economic structure, or the American-style world — Pax Americana, to the Integral world economic structure, based on the ethical norms of the civilizations of the East. The main contradiction of today is the confrontation between the defenders of the obsolete Industrial civilization in the face of the cumulative West and the supporters of the Information Society that is coming to replace it, the embodiment of which is the countries of the East.

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